COURSE INSTRUCTOR NAME: Mrs.A.PUNITHA ACADEMIC YEAR:2023-24

SUBJECT NAME:BLOCK CHAIN TECHNOLOGY

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SEM START DATE AND END DATE: 4-12-23 T0 19-03-24

CONTENTS OF COURSE FILE

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HOD

1. DEPARTMENT VISION & MISSION

Vision:

To produce globally competent and industry-ready graduates in Computer Science & Engineering by imparting quality education with the know-how of cutting-edge technology and holistic personality.

Mission:

1. To offer high-quality education in Computer Science & Engineering in order to build core competence for the graduates by laying a solid foundation in Applied Mathematics and program framework with a focus on concept building.

2. The department promotes excellence in teaching, research, and collaborative activities to prepare graduates for a professional career or higher studies.

3. Creating an intellectual environment for developing logical skills and problem-solving strategies, thus developing, an able and proficient computer engineer to compete in the current global scenario.

2. LIST OF PEOs, POs AND PSOs

2.1 Program Educational Objectives (PEO):

PEO 1: Excel in professional career and higher education by acquiring knowledge of mathematical computing and engineering principles.

PEO 2: To provide an intellectual environment for analyzing and designing computing systems for technical needs.

PEO 3: Exhibit professionalism to adapt current trends using lifelong learning with legal and ethical responsibilities.

PEO 4: To produce responsible graduates with effective communication skills and multidisciplinary practices to serve society and preserve the environment.

2.2. Program Outcomes (POs):

Engineering Graduates will be able to satisfy these NBA graduate attributes:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and

write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

2.3 Program Specific Outcomes (PSOs):

PSO1: Professional Skills and Foundations of Software development: Ability to analyze, design and develop applications by adopting the dynamic nature of Software developments.

PSO2: Applications of Computing and Research Ability: Ability to use knowledge in cutting edge technologies in identifying research gaps and to render solutions with innovative ideas.

3. COURSE OUTCOMES

CO1	Explain the basics of block chain , crypto currency and crowd funding.[Understanding]
CO2	Categorize various Digital art verification and implement based on real time scenario.[Analyzing]
CO3	Examine the various types of coins and MOOCS.[Analyzing]
CO4	Identify Coin drop as a strategy for Public adoption, Currency Multiplicity and Demurrage currency.[Applying]
CO5	Compose technical challenges and Business model challenges follow Government Regulations.[Creating]

REVISED Bloom's Taxonomy Action Verbs

Definitions	I. Remembering	II. Understanding	III. Applying	IV. Analyzing	V. Evaluating	VI. Creating
Bloom's Definition	Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers.	Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas.	Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations.	Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria.	Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.
Verbs	• Choose • Define • Find • How • Label • List • Match • Name • Omit • Recall • Relate • Select • Show • Spell • Tell • What • When • Where • Which • Who • Why	• Classify • Compare • Contrast • Demonstrate • Explain • Extend • Illustrate • Infer • Interpret • Outline • Relate • Rephrase • Show • Summarize • Translate	• Apply • Build • Choose • Construct • Develop • Experiment with • Identify • Interview • Make use of • Model • Organize • Plan • Select • Solve • Utilize	• Analyze • Assume • Categorize • Classify • Compare • Conclusion • Contrast • Discover • Dissect • Distinguish • Divide • Examine • Function • Inference • Inspect • List • Motive • Relationships • Simplify • Survey • Take part in • Test for • Theme	• Agree • Appraise • Assess • Award • Choose • Compare • Conclude • Criteria • Criticize • Decide • Deduct • Defend • Determine • Disprove • Estimate • Evaluate • Explain • Importance • Influence • Interpret • Judge • Justify • Mark • Measure • Opinion • Perceive • Prioritize • Prove • Rate • Recommend • Rule on • Select • Support • Value	• Adapt • Build • Change • Choose • Combine • Compile • Compose • Construct • Create • Delete • Design • Develop • Discuss • Elaborate • Estimate • Formulate • Happen • Imagine • Improve • Invent • Make up • Maximize • Minimize • Modify • Original • Originate • Plan • Predict • Propose • Solution • Solve • Suppose • Test • Theory

Anderson, L. W., & Krathwohl, D. R. (2001). A taxonomy for learning, teaching, and assessing, Abridged Edition. Boston, MA: Allyn and Bacon.

Action Words for Bloom's Taxonomy					
Knowledge	**Understand**	**Apply**	**Analyze**	**Evaluate**	**Create**
define	explain	solve	analyze	reframe	design
identify	describe	apply	compare	criticize	compose
describe	interpret	illustrate	classify	evaluate	create
label	paraphrase	modify	contrast	order	plan
list	summarize	use	distinguish	appraise	combine
name	classify	calculate	infer	judge	formulate
state	compare	change	separate	support	invent
match	differentiate	choose	explain	compare	hypothesize
recognize	discuss	demonstrate	select	decide	substitute
select	distinguish	discover	categorize	discriminate	write
examine	extend	experiment	connect	recommend	compile
locate	predict	relate	differentiate	summarize	construct
memorize	associate	show	discriminate	assess	develop
quote	contrast	sketch	divide	choose	generalize
recall	convert	complete	order	convince	integrate
reproduce	demonstrate	construct	point out	defend	modify
tabulate	estimate	dramatize	prioritize	estimate	organize
tell	express	interpret	subdivide	find errors	prepare
copy	identify	manipulate	survey	grade	produce
discover	indicate	paint	advertise	measure	rearrange
duplicate	infer	prepare	appraise	predict	rewrite
enumerate	relate	produce	break down	rank	role-play
listen	restate	report	calculate	score	adapt
observe	select	teach	conclude	select	anticipate
omit	translate	act	correlate	test	arrange
read	ask	administer	criticize	argue	assemble
recite	cite	articulate	deduce	conclude	choose
record	discover	chart	devise	consider	collaborate
repeat	generalize	collect	diagram	critique	collect
retell	give examples	compute	dissect	debate	devise
visualize	group	determine	estimate	distinguish	express
	illustrate	develop	evaluate	editorialize	facilitate
	judge	employ	experiment	justify	imagine
	observe	establish	focus	persuade	infer
	order	examine	illustrate	rate	intervene
	report	explain	organize	weigh	justify
	represent	interview	outline		make
	research	judge	plan		manage
	review	list	question		negotiate
	rewrite	operate	test		originate
	show	practice			propose
	trace	predict			reorganize
	transform	record			report
		schedule			revise
		simulate			schematize
		transfer			simulate
		write			solve
					speculate
					structure
					support
					test
					validate

4. SYLLABUS COPY

UNIT- I

Introduction: Block chain or distributed trust, Protocol, Currency, Crypto currency, How a Crypt currencyworks, Crowd funding.

UNIT- II

Extensibility of Block chain concepts, Digital Identity verification, Block chain Neutrality, Digital art,Block chain Environment.

UNIT- III

Block chain Science: Grid coin, Folding coin, Block chain Genomics, Bit coin MOOCs.

UNIT - IV

Currency, Token, Tokenizing, Campus coin, Coin drop as a strategy for Public adoption, Currency Multiplicity, Demurrage currency.

UNIT - V

Technical challenges, Business model challenges, Scandals and Public perception, Government Regulations.

TEXT BOOK:

1. Block chain Blue print for Economy by Melanie

SwanR

REFERENCE:

1. Block chain Basics: A Non-Technical Introduction in 25 Steps 1st Edition, by Daniel Dresser.

5.INDIVIDUAL TIME TABLE(A.PUNITHA)

	I	II	III	IV		V	VI	VII
MON		BCT				BCT		BCT
TUE	BCT							
WED			BCT					BCT
THU	MAJOR PROJECT STAGE -II					MAJOR PROJECT STAGE -II		
FRI	MAJOR PROJECT STAGE -II					MAJOR PROJECT STAGE -II		
SAT	MAJOR PROJECT STAGE -II					MAJOR PROJECT STAGE -II		

6.SESSION PLAN/LESSON PLAN

S.No	Topic (Autonamous Syllabus)	Sub-Topic	No. Of Lectures Required	Planned Date	Conducted Date	Teaching Methology
UNIT – I						
1	Unit-1 Introduction	Introduction	**L1**	**04/12/23**	**04/12/23**	**M1**
2		Block chain or distributed trust	**L2**	**04/12/23**	**05/12/23**	**M4**
3		Protocol	**L3**	**05/12/23**	**06/12/23**	**M7**
4		Currency	**L4, L5**	**06/12/23**	**11/12/23**	**M4**
5		Crypto currency	**L6.L7**	**11/12/23**	**12/12/23**	**M4**
6		How a Crypto currency works	**L8,L9**	**12/12/23**	**13/12/23**	**M4**
7		Crowd funding	**L10,L11**	**18/12/23**	**19/12/23**	**M1**
Unit-II						
8	Unit-2 Extensibility of Block chain concepts	Extensibility of Block chain concepts	**L12,L13**	**19/12/23**	**20/12/23**	**M1**
9		Digital Identity verification	**L14,L15,L16**	**20/12/23**	**26/12/23**	**M4**
10		Neutrality	**L17,L18**	**26/12/23**	**27/12/23**	**M4**
11		Block chain Neutrality	**L19,L20**	**26/12/23**	**02/01/24**	**M4**
12		Digital art	**L21**	**02/01/24**	**03/01/24**	**M6**
13		Block chain Environment Block	**L22,L23**	**03/01/24**	**08/01/24**	**M7**

		UNIT-III				
14	Unit-III Blockchain Science:	Block chain Science	**L24, L25**	**08/01/24**	**09/01/24**	**M1**
15		Grid coin	**L26, L27**	**09/01/24**	**10/01/24**	**M4**
16		Folding coin	**L28, L29**	**10/01/24**	**22/01/24**	**M4**
17		Block chain Genomics	**L30,L31,L32**	**22/01/24**	**23/01/24**	**M7**
19		Bit coin MOOCs	**L33,L34**	**23/01/24**	**24/01/24**	**M4**
UNIT – IV						
20	UNIT – IV Currency	Currency	**L35, L36**	**29/01/24**	**30/01/24**	**M1**
21		Token	**L37, L38**	**30/01/24**	**31/01/24**	**M4**
22		Tokenizing	**L39,L40, L46**	**31/01/24**	**05/02/24**	**M6**
23		Campus coin	**L47,L48**	**06/02/24**	**07/02/24**	**M4**
24		Coin drop as a strategy for Public adoption	**L49,L50**	**12/02/24**	**13/02/24**	**M7**
26		Currency Multiplicity	**L51, L53**	**12/02/24**	**20/02/24**	**M4**
		UNIT-V				
27	UNIT – V	Technical challenges	**L54,L55,L56**	**20/02/24**	**21/02/24**	**M1**
28		Business model challenges	**L57,L58, L59**	**26/02/24**	**27/02/24**	**M4**

29	Technical challenges	Scandals and Public perception	**L60,L61,L62**	**04/03/24**	**05/03/24**	**M7**
30		Government Regulations	**L63,L64,L65**	**18/03/24**	**19/03/24**	**M6**
Total			**65**			

METHODS OF TEACHING:

M1 : Lecture Method	**M4 : Presentation /PPT**	**M7 : Assignment**
M2 : Demo Method	**M5 : Lab/Practical**	**M8 : Industry Visit**
M3 : Guest Lecture	**M6 : Tutorial**	**M9 : Project Based**

NOTE:

1. Any Subject in a Semester is suppose to be completed in 55 to 65 periods.
2. Each Period is of 50 minutes.
3. Each unit duration & completion should be mentioned in the Remarks Column.
4. List of Suggested books can be marked with Codes like T1, T2, R1, R2 etc.

7. Session Execution Log:

S no	Units	Scheduled started date	Completed date	Remarks
1	I	04/12/23	19/12/23	COMPLETED
2	II	19/12/23	08/01/24	COMPLETED
3	III	08/01/24	24/01/24	COMPLETED
4	IV	29/01/24	04/02/24	COMPLETED
5	V	20/02/24	19/03/24	COMPLETED

8. Lecture Notes – (hand written)

9. ASSIGNMENT QUESTIONS ALONG SAMPLE ASSIGNMENT SCRIPTS

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MID 1 ASSIGNMENT

ACADEMIC YEAR 2023-24

SUBJECT NAME: INTERNET OF THINGS

ANSWER ALL THE QUESTIONS

1.A.What is a Block in Block chain? How does a Block chain work?

applications Of Block chain? What are the benefits of Block chain? (CO1)

B. Explain about crowd funding? What technologies are used in crowd funding? How does Block chain support crowd funding? (CO1)

2.A.Explain about crypto currency in block chain? How are crypto currency different from

Blockchain? (CO1)

B.Discuss about any example of crypto currency.?(CO1)

3.A.What is Digital identity verification? How do you create a digital identity in block chain?

B. Elaborate Block Chain Environment in detail?(CO2)

4. Explain about Proof of work and Proof of stake in detail(CO2)

5.A.Explain about folding coin in Block chain science? How much is folding coin worth? (CO3)

B. Explain about Grid coin in Block chain Science? How do you get Grid coin? (CO3)

DEPARTMENTOF COMPUTER SCIENCE AND ENGINEERING

MID II ASSIGNMENT

ACADEMIC YEAR 2023-24

ANSWER ALL THE QUESTIONS 5*1=5 MARKS

1.What is the use of Block chain in Genomics ?What are the Technologies used in Block chain Genomics?(CO3)

2. What is a coin drop as a strategy in Block chain?(CO4)

3. Explain about Demurrage currency with example ?(CO4)

4. a.Explain about Currency Multiplicity ?(CO4)

b. Define the concept of tokenization and provide examples of assets that can be tokenized. Discuss the potential benefits and challenges associated with tokenizing assets?(CO4)

5.a. Explain the Technical Challenges of Blockchain?(CO5)

b. Explain the Government Regulations of Blockchain ?(CO5)

10. MID EXAM QUESTION PAPER ALONG SAMPLE ANSWER SCRIPTS

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Date: 29/01/2024 **Time: 1:00 PM to3:00 PM**
Subject: BLOCK CHAIN TECHNOLOGY
Branch: CSE **Max.Marks:25 M**

PART-A **5 x 2 M = 10 M**

1. Define Block chain? Write down features of Block chain?**(CO1)**
2. List out the difference types of Block chains? Explain? **(CO1)**
3. Explain about Digital art? **(CO2)**
4. Explain about crypto currency? What is the main Problem in crypto currency? **(CO2)**
5. What is encryption? What is its role in Block chain? **(CO3)**

PART-B **3 x 5 M = 15 M**

6. What is a Block in Block chain? How does a Block chain work? What are the applications of Block chain? What are the benefits of Block chain? **(CO1)**

(OR)

7. Explain about crypto currency in block chain? How are crypto currency different from Block chain? Discuss about any example of crypto currency. **(CO1)**

8. What is Digital identity verification? How do you create a digital identity in block chain? **(CO2)**

(OR)

9. Explain about crowd funding? What technologies are used in crowd funding? How does Block chain support crowd funding? **(CO2)**
10. Explain about folding coin in Block chain science? **(CO3)**

(OR)

11. Explain about Grid coin in Block chain Science? How do you get Grid coin? **(CO3)**

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Date: 28/03/2024 **Time: 1:00 P.M TO 3.00PM**

Subject: BLOCK CHAIN TECHNOLOGY

Branch: CSE **Max.Marks:25 M**

PART-A **5 x 2 M = 10 M**

1. Define Bit coin MOOCs?(CO3)

2. Explain about Campus coin? (CO4)

3. How can proactive government regulations promote innovation while protecting consumers and public interests? (CO5)

4. How Government Regulations are work in Bitcoin? (CO5)

5. Write the Business Model Challanges? (CO5)

PART-B **3 x 5 M = 15 M**

6. Summarize the history of Bitcoin, why to use Bitcoins ? (CO3)

(OR)

7. Explain the Bit Coin Wallets?(CO3)

8. Explain about Demurrage currency ?(CO4)

(OR)

9. Explain about Currency Multiplicity ?(CO4)

10. Explain the Technical Challenges of Blockchain?(CO5)

(OR)

11. Explain the Government Regulations of Blockchain ?(CO5)

11.SCHEME OF EVALUATION:

MID 1

S.NO	THEORY	MARKS	TOTAL MARKS
PART-A			
1	Definition - Block chain	2	2
2	Types of Block chains	2	2
3	Definition - Digital art	2	2
4	Crypto currency	1	2
	Problems	1	
5	Encryption	1	2
	Roles in block chain	1	
	PART-B		
1	Summarize	5	5
2	Explanation	3	5
	Examples	2	
3	Explanation	3	5
	Diagram	2	
4	Diagram	2	5 5
	Explanation	3	
5	Explanation	2	5
	Procedure	3	
6	Explanation	3	5
	Procedure	2	

MID 2

S.NO	THEORY	MARKS	TOTAL MARKS
PART-A			
1	Definition- MOOCs	2	2
2	Definition- Campus coin	2	2
3	List-Government regulations	2	2
4	Procedure- Bit coin	2	2
5	Definition -Business Model Challenges	2	2
	PART-B		
1	Definition	3	5
	Types	2	
2	Definition	2	5
	Examples with codes	3	
3	Sketch	5	5
4	Definition	1	5
	Sketch	2	
	Examples with codes	2	
5	Block diagram	2	5
	Explanation	3	
6	Summarize	3	5
	Examples with codes	2	

12.Mapping of COs and Pos with PSOs

COURSE	Relationship of Course Outcomes to Program Outcomes (PO AVG)													
CO-PO&PSO MATRIX	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2				1						1			
CO2	2	2	2	2									2	1
CO3	2				1									
CO4	2	2	2	2							2		2	1
CO5	2	2	2				1	1	1			1		

Mapping of Pos with PEOs

	Program Outcome(PO):												
		1	2	3	4	5	6	7	8	9	10	11	12
	I	X											
	II		X	X									
	III												X
PEOS	IV						X	X					

13.Cos,POs,PSOs JUSTIFICATION

COURSE OUTCOMES

CO1	Explain the basics of block chain , crypto currency and crowd funding.[Understanding]
CO2	Categorize various Digital art verification and implement based on real time scenario.[Analyzing]
CO3	Examine the various types of coins[Grid, Fold] and MOOCS.[Analyzing]
CO4	Identify Coin drop as a strategy for Public adoption, Currency Multiplicity and Demurrage currency.[Applying]
CO5	Compose technical challenges and Business model challenges follow Government Regulations.[Creating]

Cos,POs,PSOs Mapping:

COURSE	Relationship of Course Outcomes to Program Outcomes (PO AVG)												
CO-PO&PSO MATRIX	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2				2						1			
CO2	2	1	1	1									1	1
CO3	2				1									
CO4	2	2	2	2							1		1	1
CO5	2	2	2					1						

Justification:

CO1.: Explain the basics of block chain , crypto currency and crowd funding.[Understanding]
Correlated with PO1 moderately: Because it contributes the knowledge on Block chain which makes students get engineering knowledge and student can knowledge about crypto currency and crowd funding. So, overall the correlation of CO1 to PO1 is Moderate.
Correlated with PO5 Moderate: Because to make a account need some modern tool to do trade and transaction of coins. So, overall the correlation of CO1 to PO5 is Moderate.
Correlated with PO11Low: Because it currency and funding based for business transactions So, overall the correlation of CO1 to PO11 is Low.

CO2:Categorize various Digital art verification and implement based on real time scenario.[Analyzing]
Correlated with PO1 moderately: Because it Identify and formulate of digital art. So, correlation is Moderate.
Correlated with PO2 low: Because it analyze engineering problems to arrive at substantiated in digital art verification provides Co2 with PO2is low.
Correlated with PO3 low: Because it Design solutions for complex engineering problems and design system analyze engineering problems to arrive at substantiated CO2 with PO2is low.
Correlated with PO 4 low: **PO4: Conduct investigations of complex problems** Because it Use research-based knowledge including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions for real time scenario CO2 with PO2is low.
Correlated with PSO 1 low: Because it analyze, design and develop applications by adopting the dynamic nature of Software developments in various digital art CO2 with PSO1is low.
Correlated with PSO 2low: Because it Ability to use knowledge in cutting edge technologies in identifying research gaps and to render solutions with innovative ideas for real time scenario CO2 with PSO2is low

CO3: Examine the various types of coins[Grid,Fold] and MOOCS.[Analyzing]
Correlated with PO1 moderately: Because it provides Apply the knowledge various types of coins So, correlation is Moderate.
Correlated with PO5 moderately: Because it provides to choose Grid and folding coin to Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools So, correlation is Moderate .

CO4: Identify Coin drop as a strategy for Public adoption, Currency Multiplicity and Demurrage currency.[Applying]
Correlated with PO1 moderately: Because it provides knowledge about strategy of coin drops. So, correlation is **moderate**.
Correlated with PO2 moderately: Because it provides for Public adoption design solution of

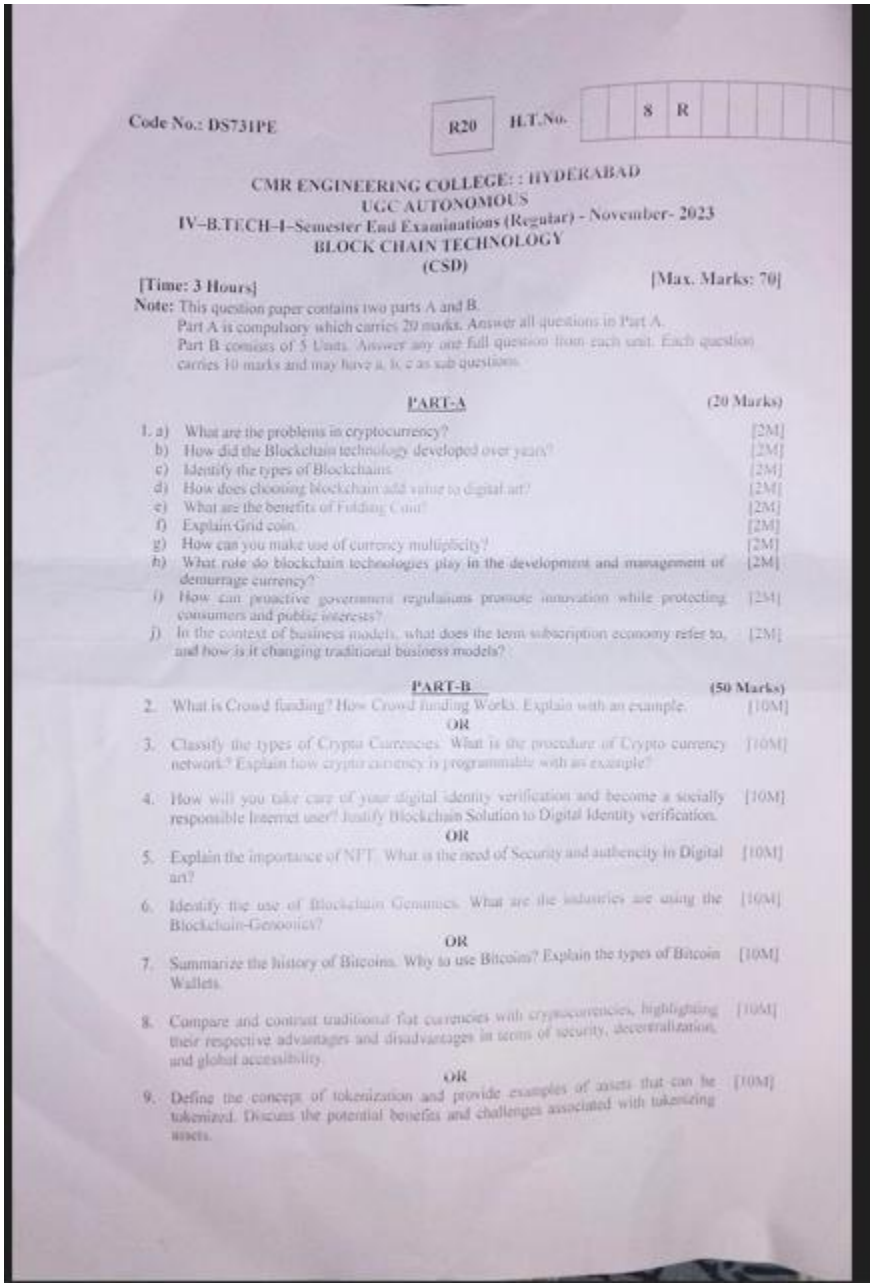
engineering problems. So, correlation is good.
Correlated with PO3 low: Because it Design solutions for complex engineering problems Currency Multiplicity and design system components or processes that meet the specified needs conducts investigation of engineering problems with research methods. So, correlation is low.
Correlated with PO4low: Because it conducts investigation of engineering problems and Demurrage currency with research methods. So, correlation is low.
Correlated with PO11 low: Because it Function effectively as an individual, and as a member Currency Multiplicity. So, correlation is low.
Correlated with PSO1 low: Because it analyze, design and develop Currency Multiplicity applications by adopting the dynamic nature of Software developments. So, correlation is moderate.
Correlated with PSO2 low: Because it identifying research gaps and to render solutions with innovative ideas conducts investigation of engineering problems with research methods. So, correlation is low.

CO5:**Compose** technical challenges and Business model challenges follow Government Regulations.[Creating]
Correlated with PO1 moderately: Because it good knowledge on government regulations. So, overall correlation of CO5 is moderate.
Correlated with PO2 moderately: Because it Identify, formulate, review research literature, So, overall the correlation of CO5 is moderate.
Correlated with PO3 Moderately: Because it better for identification business model challenges of different solutions for problems with environmental aspects. So, that the students can apply to build some applications. So the correlation is low.
Correlated with PO8 low: Because it as student to identify research on business model challenges problems with follow rules and regulations. So Correlation CO5 is moderate with PSO2.

14.Attainment of COs,POs AND PSOs (Excel sheet)

AFTER RESULT

15. Previous Question Papers



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CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
IV–B.TECH–I–Semester End Examinations (Regular) - November- 2023
BLOCK CHAIN TECHNOLOGY
(CSD)

[Time: 3 Hours] [Max. Marks: 70]

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A (20 Marks)

1. a) What are the problems in cryptocurrency? [2M]
   b) How did the Blockchain technology developed over years? [2M]
   c) Identify the types of Blockchains. [2M]
   d) How does choosing blockchain add value to digital art? [2M]
   e) What are the benefits of Folding Coin? [2M]
   f) Explain Grid coin. [2M]
   g) How can you make use of currency multiplicity? [2M]
   h) What role do blockchain technologies play in the development and management of demurrage currency? [2M]
   i) How can proactive government regulations promote innovation while protecting consumers and public interests? [2M]
   j) In the context of business models, what does the term subscription economy refer to, and how is it changing traditional business models? [2M]

PART-B (50 Marks)

2. What is Crowd funding? How Crowd funding Works. Explain with an example. [10M]

OR

3. Classify the types of Crypto Currencies. What is the procedure of Crypto currency network? Explain how crypto currency is programmable with an example? [10M]

4. How will you take care of your digital identity verification and become a socially responsible Internet user? Justify Blockchain Solution to Digital Identity verification. [10M]

OR

5. Explain the importance of NFT. What is the need of Security and authencity in Digital art? [10M]

6. Identify the use of Blockchain Genomics. What are the industries are using the Blockchain-Genomics? [10M]

OR

7. Summarize the history of Bitcoins. Why to use Bitcoins? Explain the types of Bitcoin Wallets. [10M]

8. Compare and contrast traditional fiat currencies with cryptocurrencies, highlighting their respective advantages and disadvantages in terms of security, decentralization, and global accessibility. [10M]

OR

9. Define the concept of tokenization and provide examples of assets that can be tokenized. Discuss the potential benefits and challenges associated with tokenizing assets. [10M]

10. Discuss the challenges faced by social media platforms regarding privacy, data security and content moderation. How these challenges have are shaped in public perception? [10M]

OR

11. How Government Regulations are work in blockchain? Also explain the Business Model Challenges. [10M]

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Important questions:

1. Differentiate between Block chain and Hyper ledger.?
2. How do you explain Block chain technology to someone who doesn't know it?
3. What is Merkel Tree?
4. What do you mean by blocks in Block chain technology?
5. How is Block chain distributed ledger different from a traditional ledger?
6. What is cryptography? What is its role in Block chain?
7. What are the different ypes of Block chain?
8. Explain about Bit coin?how it is used?
9. What are the Technical challenges faced by Block chain Technology?
10. Explain about crypt currency ?

16.Power point presentations (PPTs)

PPTs AND PRESENTATION

"BLOCKCHAIN" HAS MANY MEANINGS

"To understand the power of blockchain systems, and the things they can do, it is important to distinguish between three things that are commonly muddled up, namely the bitcoin currency, the specific blockchain that underpins it and the idea of blockchains in general."

The Trust Machine, THE ECONOMIST, Oct. 31, 2015

"BLOCKCHAIN" HAS MANY MEANINGS

Phone	Blockchain
• The idea of a phone network • A specific phone network (e.g., AT&T) • A specific use of the phone network (e.g., fax)	• The idea of blockchain • The specific blockchain that underlies Bitcoin or another coin offering • Bitcoin or another cryptocurrency

WHAT IS BLOCKCHAIN?

A technology that:

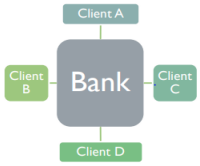
permits transactions to be gathered into blocks and recorded;

allows the resulting ledger to be accessed by different servers.

cryptographically chains blocks in chronological order; and

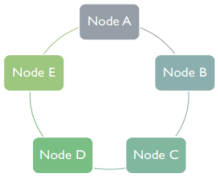
WHAT IS A DISTRIBUTED LEDGER?

Centralized Ledger



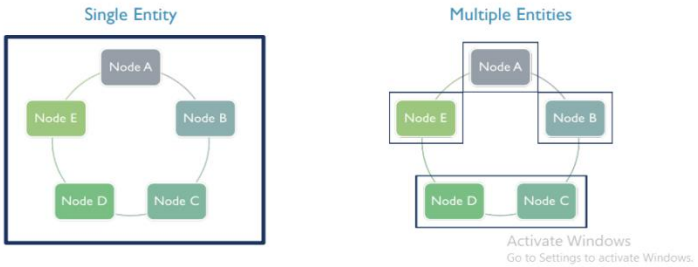
- There are multiple ledgers, but Bank holds the "golden record"
- Client B must reconcile its own ledger against that of Bank, and must convince Bank of the "true state" of the Bank ledger if discrepancies arise

Distributed Ledger

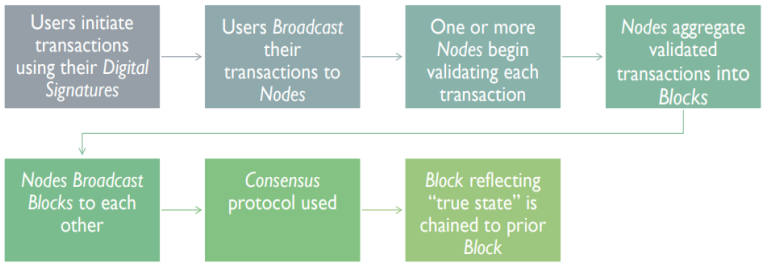


- There is one ledger. All Nodes have some level of access to that ledger.
- All Nodes agree to a protocol that determines the "true state" of the ledger at any point in time. The application of this protocol is sometimes called "achieving consensus."

WHAT IS A DISTRIBUTED LEDGER?



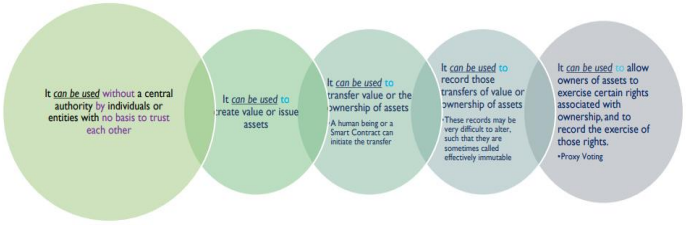
HOW MIGHT A DISTRIBUTED LEDGER WORK?



WHERE MIGHT BLOCKCHAIN USE CRYPTOGRAPHY?

Initiation and Broadcasting of Transaction	• *Digital Signatures* • *Private/Public Keys*
Validation of Transaction	• *Proof of Work and certain alternatives*
Chaining Blocks	• *Hash Function*

THE POWER OF DISTRIBUTED LEDGERS



The degree of trust between users determines the technological configuration of a distributed ledger.

17. Innovative Teaching method if any(Attached Innovative Assignment)

QUESTIONS

1. What is the innovative use of blockchain?(CO2)

2. What is the biggest problem in blockchain?(CO5)

18. References (Textbook/Websites/Journals)

Textbook

1. Block chain Blue print for Economy by Melanie Swan

REFERENCE:

Block chain Basics: A Non-Technical Introduction in 25 Steps 1st Edition, by Daniel Dresser.

Websites or URLs e- Resources

Websites

https://builtin.com/blockchain/blockchain-applications

https://dribbble.com/tags/blockchain-website

https://www.geeksforgeeks.org/blockchain/

https://www.javatpoint.com/blockchain-tutorial

Journals

https://www.sciencedirect.com/journal/blockchain-research-and-applications

https://www.researchgate.net/publication/325116411_A_study_on_blockchain_technology

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7004292/

https://www.intlpress.com/site/pub/pages/journals/items/jbr/_home/_main/index.php

https://www.ijert.org/blockchain-technology

https://www.frontiersin.org/articles/10.3389/fbloc.2019.00016/full